

Code No: 815BF

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA V Semester Examinations, January - 2018****DESIGN PATTERNS****Time: 3 Hours****Max. Marks: 60****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 8 marks and may have a, b, c as sub questions.

**PART - A****5 × 4 Marks = 20**

- 1.a) The Gang of Four suggests a few strategies for creating good object-oriented designs. What are they? [4]
- b) What is the intent of Abstract Factory pattern? Explain. [4]
- c) What is Composite pattern? Give an example. [4]
- d) Under what conditions should an Observer pattern not be used? Explain. [4]
- e) Explain the brief history of Design patterns. [4]

**PART - B****5 × 8 Marks = 40**

2. What is Design pattern? Explain the step by step approach to apply a design pattern proficiently? Also write the structure of the design pattern template. [8]
- OR**
3. List out different design patterns that are commonly used. Write the catalog of design patterns and its organization. What are the criteria used to select them? Explain. [8]
4. What is creational pattern? Discuss about Singleton and Prototype patterns in detail. [8]
- OR**
- 5.a) Explain the functionality of operations that are accessed indirectly through user operations. [8]
- b) Discuss about the implementation issues of Builder pattern. [8]
- 6.a) Differentiate between adapter and bridge design pattern.
- b) What are the known uses of adapter structural pattern? Explain. [8]
- OR**
- 7.a) Write about the language features that are exploited by Proxy pattern.
- b) What are participants of flyweight pattern? Discuss about the consequences of flyweight pattern. [8]
8. List out various behavioral patterns. Explain in detail about Chain of Responsibility and command behavioral patterns. [8]
- OR**
- 9.a) What are the consequences of Mediator pattern? Explain.
- b) What are the issues to be considered while applying Memento pattern? [4+4]
10. Write in detail about Strategy and Visitor behavioral Patterns. [8]
- OR**
- 11.a) Explain the consequences of Template Method patterns.
- b) Write the implementation issues of State behavioral pattern. [4+4]